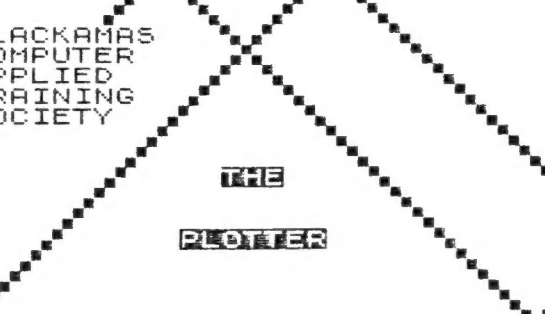


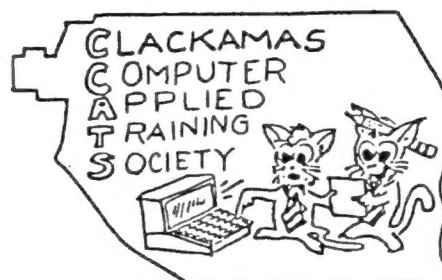
## THE PLOTTER



CLACKAMAS  
COMPUTER  
APPLIED  
TRAINING  
SOCIETY

THE  
PIONEER

COMPUTING THE FUTURE--  
IN CLACKAMAS COUNTY



Continued from page 1

Rod reported that he had sent in a year's membership to TSNUG for our user group. This was for \$15.00.

Rod also reported to prove that our newsletter does have a wide and varied reader interest, he had received 3 letters offering help as requested in 2 previous issues.

There being no further business the meeting was adjourned at 7:55.

After the meeting was adjourned, Raymond Merlin demonstrated a printer ribbon inking machine made with a battery operated rotisserie motor for power and speed reduction. He explained the sources of various components.

Dick Wagner, Secretary

#### FROM THE EDITOR'S DESK

The other day there appeared on TV pictures of a local antique car club, touring with their beauties. This set the Old Editor to thinking of the improvements in cars just in his automobile experience period. Our first car was a 1918 Chevrolet touring car. My father made the front and rear bumpers out of spring steel and pipe (bumpers were an extra). He heated the pipe over an open fire to bend it to shape. The spring steel was also heated and shaped, and re-tempered. Several other items were added over a period of time, a home made ignition switch, and wooden pedal blocks so my mother could drive the car, an exhaust heated floor heater for the back seat, luggage boxes for each running board, to name some. The hand operated wind shield wiper received a second one for the passenger side, (my father was ingenious).

The second car, a Dodge touring vehicle of about 1922 vintage, was pretty deluxe, with Trico vacuum windshield wiper, better side curtains, more seating space, factory made bumpers, and an ignition switch by this time.

Well, from then on, each car was a better example of the state of the art of automobile manufacture.

So what has all of this to do with computers? When we kind of got in on the ground floor as we did with Sinclair and Timex computers, we were kind of exploring the computer field, somewhat like pioneers in the early automobile period. We had to learn and find out what essential parts were missing in our low priced computers. Then purchases were made from time to time to improve our pride and joy, more memory, programs, books, magazines, membership in user clubs, "more chrome plating", keyboard, monitors, etc.

If we decided that this was a hobby or an essential business tool we just had to have, we began to switch to improved computers and components. As better printers came on the market, we changed from the lowly 2040. Now we were more in the real commercial class and could do nice word processing, spread sheet work, etc. So we required programs because we had out-stripped our ability to program. Now we were in so deep we were really hooked.

Because computer manufactures go out of business on almost a moments notice, many orphan machines are out there. One cannot help but feel that we have been betrayed when this happens. Just like car manufacturers, I am sure someone knows how many have fallen by the wayside and left car owners with this let-down feeling.

So, we sometimes switch our interests in computing and more nearly become acclimated to the predominate computer lines, as these are what are left. Again, like purchasing a car with the current features and design. It seems to me that we are what makes the computer advancements possible. We have been and are the buyers of the products. If we were satisfied with that ZX 80 and all of us had stopped there, and

>>

Continued from page 2

the same with all other computer buyers, the only purchasers would be "new" customers. Would there have been enough of these to advance the computer to bigger and better things? Maybe not. My point is that if we stood still and our competition had the improved models, then we, as computer users, would be under a real handicap. Just like keeping that first car and never replacing it with an improved model.

The Editor

## BITS & BYTES

by: Rod Gowen

In this column I try to bring you the latest and complete information and news available to me regarding the world of TS computing. One way that I can accomplish this is if I have the support of you, the reader, in collecting news that may be of interest to other readers. If you have any news, rumors or other tidbits of information that fits this description, why not send it along? We will be watching!

### LOGICALL CORRECTION:

RMG says that the version number that was printed in last month's issue was in error. Typos still occur once in a while. The correct version number is 4.6. We apologize if anyone was inconvenienced by this typo. You might want to order your copy now that you know it is the latest version.

### T/SNUG NEWS-

The second issue of ZXir Qlive Alive! newsletter has arrived! Not quite as thick as the first issue, it is, however, a real nice one. What they need is more input from the readers. We also want to be sure that you are going to send in your membership dues. At only \$12 per year for an individual membership and \$15 for a user group membership, it is a real bargain. The information dispensed is worth that much! Send your checks/money orders to:

Don Lambert

ZXir Qlive Alive! Newsletter  
1301 Kiblinger Place  
Auburn, IN 48706

You will receive 4 newsletter per year. They will NOT send newsletters on an exchange basis with groups, so do not ask.

We, CCATS, sent in our \$15 and I sent in my personal \$12. Why don't you do your share to keep the TS world going? Lip service doesn't count.

### JULY MEETING-

We had a fair turnout at our July meeting. With 9 members attending, it turned out to be a very short meeting. We were all out of the meeting room at about 9 PM. It seems as though there was not much to discuss either as old or new business and we were adjourned to talk about whatever after only about 30 minutes of meeting. In years past, we have not had a July meeting but decided to have one this year as our August meeting will be a dinner. We hope to see a LOT more of you at the September meeting!

### RMG SAYS THANKS

A "good samaritan" has come forward and RMG is getting a working copy of Cartridge Doctor for the QL. Our thanks go out to Peter Hale of EMSOFT. The customer who has been waiting for it since January will be pleased. There are still a few "good guys" out there!

### POT LUCK DINNER PLANS-

We hope to see you on August 11th at our pot-luck dinner. The time is set for about 4:00 PM. You can start arriving at this time and we hope to eat at about 5:30-6:00 PM. The dinner will take the place of our regular August meeting and will be held in the meeting hall at STEVE'S MOBILE HOME PARK at 2615 S. E. Courtney in Milwaukie. To find it just turn west off of McLoughlin Boulevard at Courtney, go 1/2 block and turn right into Steve's. It was decided that, if each family would bring one hot and one cold dish, that there would be plenty of food for all. NOTE! BE SURE TO BRING

»»»»

Continued from page 3

ENOUGH DISHES AND SILVERWARE FOR EACH PERSON IN YOUR PARTY! Also, be sure to bring your own beverage and glasses. Just pretend you are going to a picnic and bring what you would if you were. Hopefully, we will not end up with all fried chicken and jello salads. How about some baked beans? Or maybe some macaroni casseroles to go with the ham and potato salad? Bring your appetites!

## ODDS 'N' ENDS-

We received a new issue of TIMELINEZ along with a 1 pager from the MILE HIGH TS USER GROUP in Denver, Colorado. It seems as though an old friend of the TS world, ANDY HRADESKY, formerly of San Jose, CA, and American Micro Systems, has relocated to Colorado and is pushing a revival of the Mile High group. This is great news! Keep it up Andy!

The issue of TIMELINEZ was a bit larger but disappointing in its news that it will only be published 3 times per year. What kind of a schedule is that? As CCATS made it a policy not to exchange newsletters with any groups that does not issue at least 4 newsletters per year. It is just not fair to be trading less than 4 for 11 of ours. Any group that can put out 3 per year can surely add 1 more with very little added effort! Come on guys!

On this same subject (newsletters) we also need to take a hard look at the CONTENT of the various newsletters on our exchange list. It seems to me, and this may be only my opinion, that we are wasting resources when we trade newsletters with one that has little or no information relative to our own interests. We are primarily interested in Timex Sinclair and IBM PC related material. At least 1 of our members is into the Amiga as well. If the newsletter carries news and information related to Tandy, Mac, Apple or others, we really have very little use for the info. If a newsletter wants to call itself a TS newsletter, then, in my opinion, it had better devote at least 50-70% of the available space to TS related information.

## OLD PROGRAMS

The 3 programs in the this issue are from Vol. #1, Issue #1 of THE PLOTTER (1983). Rod Gowen produced these to help his daughters become more proficient in grade school mathematics. New users of the ZX81, TS 1000, and TS 1500 series of computers will find them simple and easy to use. For these computers add a line 6 with SLOW. Users of the 2068 will find that these programs work also.

Rod holds membership #2 in CCATS and was instrumental in its formation. From this beginning he has formed a nice business.

```
2 REM by Rod Gowen, 1981
3 REM ZX81,1000,1500,2068
5 REM "MATH DRILL M"
7 PRINT "MULTIPLICATION DRILL
```

```
"
8 PRINT
10 LET X=INT (RND*22)+1
20 LET Y=INT (RND*20)+1
40 PRINT AT 10,0;X;" TIMES "
;Y;";=",";"ANSWER?"
70 INPUT Z
80 PRINT AT 10,15;,"Z;" "
82 PAUSE 200
85 CLS
90 IF Z=X*Y THEN PRINT AT 5,0;
"GREAT ***** SUPER";,,,"NEXT?"
"
95 IF Z=X*Y THEN GO TO 10
110 IF Z<>X*Y THEN PRINT AT 5,0
;"NOPE, SORRY,",,, "TRY AGAIN"
115 PRINT
120 IF Z<>X*Y THEN GO TO 40
130 CLS
```

```
2 REM by Rod Gowen, 1981
3 REM ZX81,1000,1500,2068
5 REM "MATH DRILL A"
10 PRINT "ADDITION"
30 LET X=INT (RND*500)+1
40 LET Y=INT (RND*500)+1
50 PRINT AT 10,0;X;" PLUS ";
Y;";=",";"ANSWER?"
70 INPUT Z
80 PRINT AT 10,16;,"Z;" "
85 PAUSE 200
87 CLS
90 IF Z=X+Y THEN PRINT AT 5,0;
"HOORAY >>>> GO ON"
95 IF Z=X+Y THEN GO TO 30
120 IF Z<>X+Y THEN PRINT AT 5,0
;"NO, NO,NINNY",,,, "TRY AGAIN"
140 IF Z<>X+Y THEN GO TO 50
```

Continued on page 10



# *the plotter*

## pc page

by: Rod Gowen

Did you all enjoy last month's column? Did you get anything out of it? If so, I never heard. I can tell you from LONG experience that it really does put a severe strain on one's dedication to the task at hand - namely putting this column (and others) out each month. I do not really care if your response is pro or con. I just want to know that someone is reading the information that I dispense.

A few weeks ago I was looking at a "map" of my new hard drive and was a bit curious as to just what an "allocation unit" was. I was amazed to find that this is the MINIMUM amount of space that is reserved or used each time you save a file. Even if you are saving a file of 1 BYTE! On my particular drive this means I use 4096 bytes for each of these small files! Maybe you, like me, had assumed that DOS used only 512 bytes to save a small file like this. I was glad to be using a system that did not use 5K of disk space to save a file like LKDOS did. I am not much better off now! Except for having a lot more disk space to waste, I am only using 1K less per small file! I needed to find ways to save space! The minimum amount of space that your hard drive reserves for each title in the directory can be discovered by using CHKDSK if you have DOS 4.x or later. If your DOS is older you can use a utility such as PC TOOLS, NORTON or one of the many others available to find out the size of the allocation unit, or cluster, on your drive. I have drives that are 2048 and 4096 bytes.

I started looking at some of the real small files on my hard drive and found that most of the small ones were .BAT (batch) files. I found that many of these were less than 100 bytes and each of them was wasting space! I want to show you just what I did to save space on my drive so that you may try it on yours.

I picked 3 small batch files for a test. Below is how they read:

BATCH # 1:	BATCH # 2:	BATCH # 3:
@echo off	@echo off	@echo off
REM RESET PROMPT	REM RMG PROMPT	REM SETUP BRADFORD
prompt \$p\$g	prompt RMG \$p\$g	cd brdfrd

These files showed up on the directory as using only 40, 42 and 40 bytes respectively. I then proceeded to incorporate all three of them into one larger batch file called GO.BAT which reads:

```
@echo off
if "%1"==" " goto ERROR
goto %1
:RESETP
prompt $p$g
quit
:RMGP
prompt RMG $p$g
quit
```

Continued from page 5

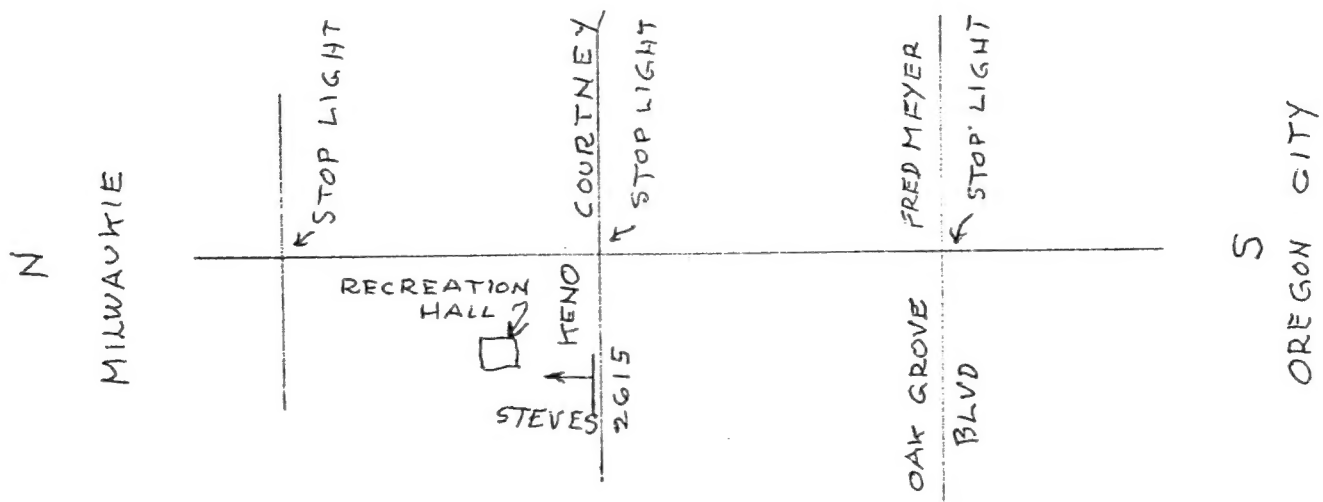
```
:SETBF  
cd brdfrd  
:ERROR  
echo.  
echo Please enter GO (batchname)
```

This batch file shows up in the directory as using only 200 bytes. I effectively saved 8192 bytes (8K)! That's assuming that each of the original 3 batch files used 4096 bytes.  $4096 \times 3 = 12,288$ . This file used only 200 bytes, the minimum usage is 4096, therefore:  $12,288 - 4096 = 8192$ . AND THIS WAS ONLY COMBINING 3 FILES! I can imagine, if you do a lot of batch files, as I do, that you could save a tidy amount of space if you put your mind to it!

Once the new batch file is saved all you have to do is type in the command: GO RESETP to execute the original batch file from within the larger file. If you forget and simply type GO and press RETURN, the program will prompt you to enter it correctly. (ERROR) You will note the use of the variable in this file again (%1). This simply tells the file to execute the proper part or sub-routine that follows the command GO. You could name it RUN or anything else you like. I just prefer to keep names as short as possible for typing purposes.

I really do hope that this bit of information will be of some help to you. I will keep you posted as to other new and amazing discoveries that I make as I plug away on the "clone". If any of you have an experience to share with our readers, PLEASE!, do not be bashful! Send it in. We will be glad to publish it! And, I'll bet our readers would be glad to read it!

See you all next time.



POT LUCK DINNER

## THANKS FOR THE MEMORY

By Tom O'Connor of BIGGS Warehouse Computers/Systems, Inc Note:  
this article is from the Biggs Bulletin.

This article began as an attempt to explain PC memory in simple terms. It was motivated by the fact that many PC user, from entry level on up to "power users", are often confused about memory. Often we receive calls from users who have installed large amounts of memory, yet still receive "out of memory" errors when attempting to run applications.

Unfortunately, as I began to describe Conventional, Extended, Enhanced, Expanded, High DOS, Protected Mode, etc.; it became clear that there is no "simple" way to cover the topic. So I decided to write on two levels. First, I will discuss some basic concepts that will hopefully be clear to all. Then, I will provide a more detailed explanation, for the more curious.

The first distinction to be made is the difference between memory and storage space. Too often when asked how much memory they have, users respond with the amount of storage space on their hard disk. Memory and storage space are two completely different entities. As an analogy, let's use a person who keeps a journal. The storage space, (floppy or hard disk) in the computer is like a journal. Whatever the person writes in the journal is a permanent record, just as what is written by the computer onto a disk is a permanent record. The journal may become full, just as the computer disk may become full. More storage space, ie. a new journal, or another or larger disk, may be added.

Consciousness, however, only exists while the person is alive (metaphysics aside). Computer memory, similarly, only exists while the computer is "alive", ie. the power is on. If the person dies, consciousness vanishes and only the information written in the journal remains. When the computer is turned off, memory disappears and only what has been written to disk remains. PC memory may thus be thought of as the consciousness of the computer.

As hardware and software have evolved, the amount of available PC memory has become increasingly important. Programs have begun to require large amounts of memory in order to operate, and often programs compete for memory. To make matters worse, several different types of memory have evolved, and not all programs use all types of memory. So purchasing large amounts of memory is not always the answer to the "out of memory" problem. The original PCs were limited to 640KB of RAM (Random Access Memory). 286 machines can use up to 16MB; 386 and 486 machines can use up to 4 GigaBytes. But even with an expensive 4 GigaBytes, you can still get an "insufficient memory" error when attempting to run an application. Why? Because all memory installed above the original limit of 640KB becomes Extended memory, and only certain applications use Extended memory.

On 386 machines and some 286 machines, there are ways to convert Extended memory to other types of memory which can be used by more applications. This is where things get more complicated. If you yearn for complexity, read on...

To understand the ways the PC uses memory and how best to take advantage of it, we must first define the various types of memory:

**Low Dos Memory/Base Memory/Conventional Memory:** This is the first 640KB of memory. Most applications use low DOS memory, and it is considered the most "valuable" form of memory.

**High DOS Memory/Upper Memory Blocks:** This is the address space from 640K to 1024K. Note that this is not physical memory, it is logical address space! The space is reserved for buffer RAM and BIOS ROM, and for display adaptors and other devices which have been installed in the computer. Expanded memory is addressed in this area.

**Expanded Memory/EMS/EEMS/LIM EMS:** Memory accessed using LIM EMS standards. EMS or LIM EMS stands for Lotus-Intel-Microsoft-Expanded-Memory-Specification. Lotus, Intel, and Microsoft came together to agree on this memory specification so that applications could be written to use memory above low DOS memory. Many applications automatically sense the presence of Expanded memory and will use it to augment low DOS memory. There are two ways to get expanded memory. The first is to add an Expanded memory board to the PC, along with Expanded Memory drivers. The second is to use a software Memory Management program to convert Extended memory into Expanded memory.

**Extended Memory:** Memory addressed above 1024k. Only available to 286, 386, and 486 CPUs. All memory in excess of 640K defaults to Extended memory. In order to use Extended memory, programs must operate in what is called "Protected Mode".

The most difficult concept for most people to grasp is the difference between actual and logical address space. As an example, let's look at a machine with 1MB of RAM. From 0K to 640K is Low Dos memory. Above 640K there is 384K of logical address space which is the High Dos area. This area allows the computer to communicate with the video card, ROM BIOS, Expanded memory boards and other physical devices. Much of the High Dos area is simply unused logical address space, with no physical memory present. So we still have to account for 384K of our original 1MB of RAM. This 384K is addressed at 1024K, up to 1408K. 1024K is the beginning of Extended memory, and is the address of any memory above 640K. Any memory beyond the initial 1MB will be added to the existing 384K of Extended memory. Since many common applications do not run in Protected Mode, they will be unable to use Extended memory. So the question really becomes, how do we really access all of this unused memory? The answer is that we must either use programs that operate in Extended memory, or use some type of Memory Manager software to address more memory.

Memory Managers are effective on 286 CPUs only if they are equipped with the NEAT Chip Set or if they have an expanded memory board installed. Otherwise, 286 CPUs can only take advantage of additional memory for programs that use Extended memory; often the Extended memory is used for RAM disks or Disk Caching. On 386 CPUs, and some 286 CPUs with the NEAT Chip Set, Memory Managers can remap memory into the unused logical address space in the High Dos area. This allows some programs and device drivers to be moved out of Low Dos, freeing up memory for applications. Another function performed by most Memory Managers is the conversion of Extended memory to Expanded memory. Many applications that cannot use Extended memory will automatically take advantage of Expanded memory if it is available.



## DAY OF THE WEEK

Here is a 2068 program that will provide that unanswered question, on what day of the week were you born?

It is a good group or party program that allows people to input their birth date and out comes the day of the week. Of course, it can be used for any date to find out what day it falls on.

The only input to watch out for is the month first (1-12), then the day (1-31), and then the year (xxxx). Note that the year must be later than 1752.

Dick Wagner

```

90 REM Program to calculate
the day of the week
100 REM For 2068, and IBM Clone
s with GWBASIC or BASICA, and ma
ybe TS 1000
105 REM for GWBASIC, LET is not
required. LINE 110 is changed t
o DIM D$(7)
110 DIM D$(7,9)
120 LET D$(1)="Monday"
130 LET D$(2)="Tuesday"
140 LET D$(3)="Wednesday"
150 LET D$(4)="Thursday"
160 LET D$(5)="Friday"
170 LET D$(6)="Saturday"
180 LET D$(7)="Sunday"
190 PRINT "Date (MM,DD,YYYY)?";
200 INPUT M,D,Y
205 IF D<=0 THEN GO TO 640
210 GO SUB 500
220 PRINT D$(Z)
230 GO TO 190
500 IF Y<=1752 THEN GO TO 620
510 LET N=INT (.6+1/M)
520 LET L=Y-N
530 LET P=M+12*N
540 LET C=L/100
550 LET Y1=INT (C)
560 LET Z1=INT (C/4)
570 LET Z3=INT (5*L/4)
580 LET Z4=INT (13*(P+1)/5)
590 LET Z=Z4+Z3-Y1+Z1+D+5
600 LET Z=Z-(7*INT (Z/7))+1
610 RETURN
620 PRINT "The year must be aft
er 1752"
630 GO TO 190
640 REM add 650 END if for GWBA
SIC

```

## FABRIC CONVERSION CHART

Convert One Width/Length to Another Width/Length

Sewing patterns call for a given amount of fabric yardage based on a pattern size. The width is not always available for a desired fabric type and/or design. This conversion chart (from a fabric manufacturer) gives the conversion of width and length to another length for a desired width. Compensation for difficult design match should be considered in the called for width so conversion includes the added amount.

INCHES									
WIDTH	32	36-38	39	41	44-45	50	52-54	56-60	
Yards	1 7/8	1 3/4	1 1/2	1 1/2	1 3/8	1 1/4	1 1/8	1	
	2 1/4	2	1 3/4	1 3/4	1 5/8	1 1/2	1 3/8	1 1/4	
	2 1/2	2 1/4	2	2	1 3/4	1 5/8	1 1/2	1 3/8	
	2 3/4	2 1/2	2 1/4	2 1/4	2 1/8	1 3/4	1 3/4	1 5/8	
	3 1/8	2 7/8	2 1/2	2 1/2	2 1/4	2	1 7/8	1 3/4	
	3 3/8	3 1/8	2 3/4	2 3/4	2 1/2	2 1/4	2	1 7/8	
	3 3/4	3 3/8	3	2 7/8	2 3/4	2 3/8	2 1/4	2	
	4	3 3/4	3 1/4	3 1/8	2 7/8	2 5/8	2 3/8	2 3/8	
	4 3/8	4 1/4		3 1/2	3 1/8	2 3/4	2 5/8	2 3/8	
	4 5/8	4 1/2	3 3/4	3 5/8	3 3/8	3	2 3/4	2 5/8	
	5	4 3/4	4	3 7/8	3 5/8	3 1/4	2 7/8	2 3/4	
	5 1/4	5	4 1/4	4 1/8	3 7/8	3 3/8	3 1/8	2 7/8	

Print the title, FABRIC CONVERSION CHART, for the first line with 5 spaces each side. This is underlined 33 spaces in pica.

The remainder of the chart is printed in compressed mode. Set your printer for compressed, or insert the code in the text

The top line is an underline 62 characters long. The next line just prints in the word "INCHES"

The 3rd line prints "WIDTH", and at the following TABs, TAB 8+ 2 spaces, "32"; TAB 15, "36-38"; TAB 22+2 spaces, "39"; TAB 29+2 spaces, "41"; TAB 36, "41"; TAB 43, "44-45"; TAB 50, "52-54"; TAB 57, "56-60". This line is underlined.

The 5th line starts with "Yards", then at each TAB key in the line of numbers. For the remaining lines just key in the numbers.

-NOTICE-

Continued from page 4

```
2 REM by Rod Gowen, 1981
3 REM ZX81,1000,1500,2068
5 REM "MATH DRILL 5"
7 PRINT "MATH DRILL 4"
10 PRINT "SUBTRACTION"
30 LET X=INT (RND*500)+1
40 LET Y=INT (RND*500)+1
45 IF X<Y THEN GO TO 30
50 PRINT AT 10,0;X;" MINUS "
;Y;"=";"ANSWER?"
70 INPUT Z
80 PRINT AT 10,17;Z;" "
82 PAUSE 200
85 CLS
90 IF Z=X-Y THEN PRINT AT 5,0;
"RIGHT ON,","",,"GO ON TO NEXT"
110 IF Z=X-Y THEN GO TO 30
120 IF Z<>X-Y THEN PRINT AT 5,0
;"NOT SO FAST,","",,"DO IT OVER"
140 IF Z<>X-Y THEN GO TO 50
```

Opinions expressed in articles are not necessarily those of members of the Clackamas County T/S User Group. Meeting minutes carry the consensus of members present at meeting. This newsletter nor staff will not be held liable for any damage or consequences due to following instructions, or review of products as contained in this newsletter.

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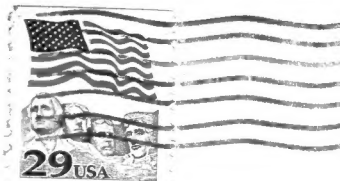
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